

## A METHOD OF COMPENSATING FOR CORRELATION BETWEEN MULTIPLE ANTENNAS

### ABSTRACT

A method is provided of transmitting signals from two or more  
5 antennas in a wireless telecommunications network, in which at least one data  
sequence is space-time block encoded. Before transmitting the data sequence,  
a linear transformation is applied to the data sequence, the linear  
transformation being adapted to use knowledge of correlation among the  
antennas to at least partially compensate the transmitted signals for said  
10 correlation. The linear transformation depends on the eigenvalues of an  
antenna correlation matrix. The linear transformation further depends on a  
ratio of symbol energy ( $E_s$ ) to noise variance ( $\sigma^2$ ). The method includes  
transmitting the encoded and transformed data sequence.